Patent Claims

1. Method for determining a measuring point in time (t_M) , at which a measured value is to be produced by a field device (1) of process automation technology, wherein the field device (1) communicates its measured values at certain communication points in time (t_K) via a field bus (5) following a query from a central control unit (10) for measured values of the field device,

characterized in that

the following communication point in time (t_f) is at least approximately determined from at least two communication points in time $(t_K,\ t'_K)$, and

the measuring point in time (t_M) is determined on the basis of the approximately determined communication point in time (t_f) .

- 2. Method as claimed in claim 1, characterized in that also the measurement point in time (t_M) is communicated with the measured value.
- 3. Method as claimed in claim 1, characterized in that the following communication point in time (t_f) is approximated from at least one time span (A) between at least two preceding communication points in time $(t_K,\ t'_K)$ and a preceding communication point in time (t''_K) .
- 4. Method as claimed in claim 1, characterized in that at least two time spans $(A_1,\ A_2)$ are calculated between, in each case, at least two preceding communication points in time $(t_{K1},\ t'_{K1},\ t_{K2},\ t'_{K2})$, an average value (M) is formed from the time spans $(A_1,\ A_2)$, and the following communication point in time (t_f) is approximated starting from the average value (M) and a preceding communication point in time (t''_{K1}) .

5. Method as claimed in claim 1, 3 or 4 characterized in that

in the case where the time span (A_b) to the approximated communication point in time (t_{f}) is smaller than a smallest value $(K)\,,$

the communication point in time (t_f) is approximated starting from this smallest value (K), wherein the smallest value (K) is determined from the minimum time span (A_{min}) , which is possible between two measurements following one after the other, considering technical constraints.

6. Method as claimed in claim 1, 3 or 4, characterized in that

in the case, where the time span (A_b) to the approximated communication point in time (t_f) is greater than a limit value (G),

the communication point in time (t_f) is approximated starting from the time span (A'_b) , which was used for the approximation of the preceding approximated communication point in time (t'_f) , wherein the limit value (G) represents a boundary between a time span between queries in a normal communication cycle and a time span in a disturbed communication cycle of the control unit (10).

7. Apparatus for performing the method of at least one of the claims 1 to 6,

characterized in that

at least one field bus communication unit (15) is provided, which, in the case of a query from the control unit (10), communicates at least one measured value, and at least one output/control unit (20) is provided, which controls the measuring point in time (t_M) of the field device, wherein the field bus communication unit (15) transmits at least the communication point in time (t_K) to the output/control unit (20).